

WHAT IS CLAIMED IS:

1. A liquid crystal display method to display an image according to an image signal, comprising changing a ratio of a display period and a non-
5 display period of said image according to said image signal.

2. The liquid crystal display method according to claim 1, wherein said step of changing the ratio of the lightening period and the non-lightening period
10 of said light part includes changing a lightening or no-lightening of a backlight provided on a back side of said liquid crystal panel.

3. The liquid crystal display method according to claim 1, wherein said step of changing the ratio of the lightening period and the non-lightening period of
15 said light part includes changing a transmittance or no- transmittance of a shutter element provided on said backlight or on a front side of said liquid crystal panel.

20 4. The liquid crystal display method according to claim 1, wherein said step of changing the ratio of the display period and the non-display period of said image includes changing a ratio of a lightening period and a non-lightening period of a light part, which lightens
25 said liquid crystal panel from back side.

5. The liquid crystal display method according to claim 4, wherein said step of changing the ratio of

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the lightening period and the non-lightening period of said light part includes changing a lightening or no-lightening of a backlight provided on a back side of said liquid crystal panel.

5 6. The liquid crystal display method according to claim 4, wherein said step of changing the ratio of the lightening period and the non-lightening period of said light part includes changing a transmittance or no- transmittance of a shutter element provided on said 10 backlight or on a front side of said liquid crystal panel.

15 7. The liquid crystal display method according to claim 1, wherein said step of changing the ratio of the display period and the non-display period of said image includes changing a ratio of a period when the image display signal, which corresponds to said image signal is supplied and a period when the black display signal is supplied to said liquid crystal panel.

20 8. The liquid crystal display method according to claim 1, further comprising:

detecting a maximum brightness level of said image signal;

25 changing a ratio of a display period and a non- display period of said image according to said detected maximum brightness level; and

changing a gray-scale of said image signal based on said ratio of the display period and the non-display

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period of said image according to said image signal.

9. The liquid crystal display method according to claim 8, wherein said step of changing the ratio of the lightening period and the non-lightening period of said light part includes changing a lightening or no-lightening of a backlight provided on a back side of said liquid crystal panel.

10. The liquid crystal display method according to claim 8, wherein said step of changing the ratio of the lightening period and the non-lightening period of said light part includes changing a transmittance or no- transmittance of a shutter element provided on said backlight or on a front side of said liquid crystal panel.

15. 11. The liquid crystal display method according to claim 8, wherein said step of changing the ratio of the display period and the non-display period of said image includes changing a ratio of a period when the image display signal, which corresponds to said image signal is supplied and a period when the black display signal is supplied to said liquid crystal panel.

20. 12. The liquid crystal display method according to claim 8, wherein said step of changing the ratio of the display period and the non-display period of said image includes changing a ratio of a lightening period and a non-lightening period of a light part, which lightens said liquid crystal panel from back side.

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13. The liquid crystal display method according to
claim 12, wherein said step of changing the ratio of
the lightening period and the non-lightening period
of said light part includes changing a lightening or
5 no-lightening of a backlight provided on a back side of
said liquid crystal panel.

14. The liquid crystal display method according to
claim 12, wherein said step of changing the ratio of
the lightening period and the non-lightening period of
10 said light part includes changing a transmittance or
no- transmittance of a shutter element provided on said
backlight or on a front side of said liquid crystal
panel.

15. The liquid crystal display method according to
claim 1, wherein said step of changing the ratio of the
display period and the non-display period of said image
includes:

20 a first step of supplying first to m-th (m is an
integer of two or more) signals to a signal line; and
a second step of displaying an image on a liquid
crystal panel based on said first to m-th signals to
a pixel,

and said first step includes:
supplying said second to m-th signals to said
25 signal line n times (n is an integer of two or more),
for a period until said first signal is written again
after said first signal is written to a same pixel,

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and said second step includes:

selecting k-th (k is an integer from one or more to n or less) said second to m-th signal; and writing it to said pixel.

5 16. The liquid crystal display method according to claim 15, wherein

said signal line driving circuit supplies said image signal for p gray-scales (p is an integer of two or more),

10 said first signal and said second signal are image signals to display the image for p gray-scales, respectively,

15 a multi gray-scale display method that 2p gray-scale display is performed is used over 1 frame period when a still image is displayed, and

a high refreshing rate display method is used by displaying the image with the time difference when a motion image is displayed.

17. The liquid crystal display method according to 20 claim 15, wherein said first to m-th signals are supplied to said signal line continuously, periodically and repeatedly.

18. The liquid crystal display method according to 25 claim 17, wherein

said signal line driving circuit supplies said image signal for p gray-scales (p is an integer of two or more),

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said first signal and said second signal are image signals to display the image for p gray-scales, respectively,

5 a multi gray-scale display method that $2p$ gray-scale display is performed is used over 1 frame period when a still image is displayed, and

a high refreshing rate display method is used by displaying the image with the time difference when a motion image is displayed.

10 19. The liquid crystal display method according to claim 17, wherein said first signal is an image signal to display the image, and said second signal is a reset signal.

15 20. The liquid crystal display method according to claim 19, wherein

said signal line driving circuit supplies said image signal for p gray-scales (p is an integer of two or more),

20 said first signal and said second signal are image signals to display the image for p gray-scales, respectively,

a multi gray-scale display method that $2p$ gray-scale display is performed is used over 1 frame period when a still image is displayed, and

25 a high refreshing rate display method is used by displaying the image with the time difference when a motion image is displayed.

21. The liquid crystal display method according to claim 17, wherein said first signal is an image signal to display the image, and said second signal is a black display signal.

5 22. The liquid crystal display method according to claim 17, wherein said first signal is an image signal to display the image and said second signal is a gray-scale offset signal.

10 23. The liquid crystal display method according to claim 1, comprising:

deciding whether a frame image is a motion image or a still image based on the image signal and the synchronizing signal; and

15 changing the ratio of the display period and the no-display period of said image based on said decision result.

24. The liquid crystal display method according to claim 1, wherein

20 said step of changing the ratio of the display period and the no-display period of said image includes dividing said image signal of 1 frame into a plurality of areas and changing the ratio of the display period and the no-display period of each of the plurality of areas.

25 25. The liquid crystal display method according to claim 8, wherein

26 said step of detecting a maximum brightness level

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of said image signal includes dividing 1 frame of said image signal into a plurality of areas and detecting a maximum brightness level of said image signal in each of said plurality of areas.

5 26. The liquid crystal display method according to claim 1, wherein

10 said liquid crystal display device has a scanning line, a plurality of pixels formed on an intersection with the signal line formed to intersect with said scanning line is arranged in a matrix,

15 said pixel is a first pixel which changes the transmitting light according to an image signal of a first polarity and shield a light by an image signal of a second polarity or a second pixel which changes the transmitting light according to an image signal of a second polarity and shield a light by an image signal of a first polarity,

20 either one of said first pixel or said second pixel is arranged along a direction of said scanning line,

 said first pixel and said second pixel alternately are arranged to directional of said signal line, and

25 the image is written by applying the image signal of said first polarity to said first pixel, and applying the image signal of said second polarity to said second pixel.

27. The liquid crystal display method according to

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claim 26, wherein one of the image signal of said first polarity and the image signal of said second polarity is applied to said first pixel and said second pixel connected with one of said signal line at the same time.

28. The liquid crystal display method according to claim 27, wherein

the image signal of said first polarity is a writing signal of said first pixel and an erase signal of said second pixel; and

the image signal of said second polarity is an
erase signal of said first pixel and a writing signal
of the second said pixel.